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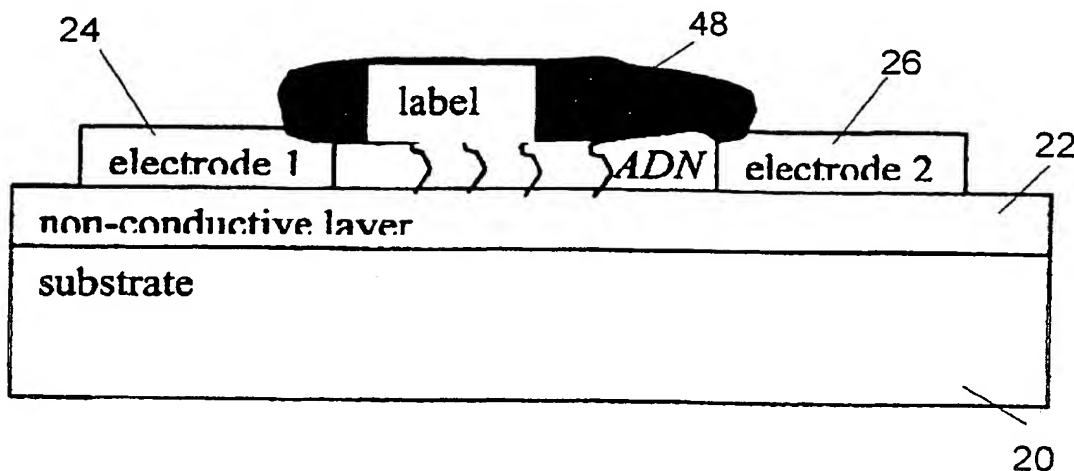
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[Continued on next page]

(54) Title: METHOD AND DEVICE FOR HIGH SENSITIVITY DETECTION OF THE PRESENCE OF DNA AND OTHER PROBES



(57) Abstract—The present invention provides a method for capacitive detection of the presence of target sample on a substrate, which comprises the steps of: binding a target sample to selective binding sites on the substrate, the target sample being directly or indirectly labeled with conductive labels, and sensing the presence of the bound conductive labels to a binding site to thereby determine the presence of the target sample. The sensing step is carried out by a capacitive detection of the presence of the conductive labels. The present invention also provides a capacitive sensor device for determining the presence of a target sample. Conductive labels are directly or indirectly couplable to the target sample. The capacitive sensor device comprises a substrate having attached thereto a binding site able to selectively bind a target sample, a capacitive sensor element, and sensing circuitry for determining the presence of a target sample bound to the binding site by application of electrical signals to a capacitive sensor element. The capacitive sensor element comprises a set of at least two electrodes with non-conductive surfaces in a region associated with the binding site.